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10/073,245	02/13/2002	Masahiro Kataoka	1614.1215	8867

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EXAMINER
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TRUONG, CAM Y T

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/073,245

**Applicant(s)**

KATAOKA ET AL.

**Examiner**

Cam Y T. Truong

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Applicant has amended claims 1, 7, 13, 19, 25, 32, 39, 40 and 47 in the amendment filed on 5/31/05. Claims 1-47 are pending in this Office Action.

Applicant's arguments with respect to claims 1-47 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 4, 6, 7, 10, 12, 13, 16, 18, 19, 22, 24, 25, 28, 30-32, 35, 37-40, 45-57 are rejected under 35 U.S.C. 102(a) as being anticipated by Kataoka et al (or hereinafter "Kataoka") (WO 99/21092).

As to claims 1, 7 and 13, Kataoka teaches the claimed limitations:

"dividing both data and index data into a plurality of sections" as first data and second data on indices of the first data are divided into sections (abstract, fig. 3, page 1),

"Wherein the index data is different from and corresponds to the data and is used to search or retrieve the data" as the index is used to search the data (page 3);

“where each of the sections comprises the data and the index data, and the data comprises at least one of text data, image data, and audio data” as (figs. 7&6);

“creating a conversion table for each section by selecting a predetermined number of 16 bit code within the data in an order of appearing frequency, decomposing remaining non-selected 16-bit codes into 8-bit codes, and selecting the 8-bit codes in an order of appearing frequency” as (fig. 2);

“compressing each of the sections based on the conversion table created therefor using a plurality of compression parameters to obtains a compressed file” as (figs. 4&5);

“storing the compressed file in a storage medium together with address information and compression parameters of the sections after compression” as (figs. 1, 4 &5).

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As to claims 4, 10, 16, 22, 28 and 35, Kataoka teaches the claimed limitation “wherein said compressing step includes identification information of the compression parameters in control information of each section” as (figs 6-8).

As to claims 6, 12, 18, 24, Kataoka teaches the claimed limitation “expanding the compressed file which is read from the storage medium by a driver software which is independent of an application software of a computer” as (fig. 7).

As to claim 19, Kataoka teaches the claimed limitations;

“a region storing a compressed file which is divided into a plurality of sections which are compressed based on a conversion table using a plurality of compression parameters” as (figs. 4&6);

“after creating the conversion table for each section by selecting a predetermined number of 16-bit codes within the data in an order of appearing frequency, decomposing remaining non-selected 16-bit codes into 8-bit codes, and selecting the 8-bit codes in an order of appearing frequency” as (fig. 2);

“wherein each of the sections comprises both data and index data, where the index data is different from and corresponds to the data, and the data comprises at least one of text data, image data, and audio data and the index data is used to search or retrieve the data, a region storing address information of the sections and the compression parameters thereof” as (figs. 4-7).

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As to claims 25 and 32, Kataokas teaches the claimed limitations:

“a reading step which accesses a storage medium which stores a plurality of compression parameters, address parameters, and a compressed file, and original file being divided into a plurality of sections and compressed for each section based on a conversion table using the plurality of compression parameters” as (figs. 1, 2&4);

“after creating the conversion table for each section by selecting a predetermined number of 16-bit codes within the data in an order of appearing frequency, decomposing remaining non-selected 16-bit codes into 8-bit codes, and selecting the 8-bit codes in an order of appearing frequency so as to obtain a plurality of section data

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forming the compressed file and address information corresponding to a plurality of sections" as (figs. 2&5);

"an expanding step which expands the section data read from the storage medium by said reading step using the compression parameters corresponding to the section data" as (fig. 8);

"wherein each of the sections comprises both data and index data, wherein the index data is different from and corresponds to the data" as (fig. 8, page 2);

"and the data comprises at least one of text data, image data, and audio data, and the index data is used to search or retrieve the data" as (page 2).

As to claims 30, 37 and 45, Kataoka teaches the claimed limitation "wherein said expanding process means causes the computer to carry out expansion by a driver software for the recording medium, said driver software being used for making access to the recording medium" as (fig. 8, page 2&3).

As to claims 31, 38 and 46, Kataoka teaches the claimed limitation "wherein the driver software for the storage medium is independent of an application software of the computer" as (fig. 8, page 2&3).

As to claims 39, 40 and 47, Kataokas teaches the claimed limitations:

"reading process section control an access to a recording medium which stores a plurality of compression parameters, address parameters, and a compressed file in

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response to a read request from an application software, and original file being divided into a plurality of sections and compressed for each section based on a conversion table using the plurality of compression parameters" figs. 1, 2&4);

"after creating the conversion table for each section by selecting a predetermined number of 16-bit codes within the data in an order of appearing frequency, decomposing remaining non-selected 16-bit codes into 8-bit codes, and selecting the 8-bit codes in an order of appearing frequency so as to obtain a plurality of section data forming the compressed file and address information corresponding to a plurality of sections" as (figs. 2&5);

"an expanding process section which expands the section data read from the storage medium by said reading process section using the compression parameters corresponding to the section data and to supply expanded data to the application software" as (fig. 8);

wherein each of the sections comprises both data and index data, wherein the index data is different from and corresponds to the data and the data comprises at least one of text data, image data, and audio data, and the index data is used to search or retrieve the data" as (fig. 8, page 2);

As to claims 2, 8, 14, 20, 26, 33 and 41, Kataoka teaches the claimed limitation "wherein said compressing step uses the plurality of compression parameters based on a distribution of an appearing frequency for each word within said file" as (fig. 8).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 8, 14, 20, 26, 33, and 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kataokas in view of Reynar et al (USP 5951623).

As to claims 2, 8, 14, 20, 26, 33 and 41, Kataokas disclose the claimed limitation subject matter in claim 1, 7, 13, 19, 25, 32 and 40, except the claimed limitation "wherein said compressing step uses the plurality of compression parameters based on a distribution of an appearing frequency for each word within said file". Reynar teaches that once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional techniques (col. 14, lines 13-18).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Reynar's teaching of once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional techniques to Kataokas's system in order to save memory space.

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6. Claims 3, 9, 15, 21, 27, 34, 39, and 42, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka in view of Benveniste (USP 6349372).

As to claims 3, 9, 15, 21, Kataoka discloses the claimed limitation subject matter in claims 1, 13, 19, except the claimed limitation "wherein said compressing step includes a flag which indicates non-compressed data in control information of a certain section, ....in a form of compressed data than the non-compressed data". Benveniste teaches that flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed. The directory entry formats may be extended so as to indicate the status of a segment with respect to its membership in the virtual uncompressed cache (col. 5, lines 62-67; col. 6, lines 1-10).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Benveniste's teaching of flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed. The directory entry formats may be extended so as to indicate the status of a segment with respect to its membership in the virtual uncompressed cache to Kataokas's system to check status of segments before compressing or reading.

As to claims 27, 34 and 42, Kataokas teaches the claimed limitation "wherein the compressed file further includes non-compressed section data of a certain section" as (col. 3, lines 25-40). Kataokas does not explicitly teach the claimed limitation "a non-

compression flag which indicates that the certain .....when the non-compression flag indicates a non-compressed state of the section data of the certain section read from the storage medium by said reading step". Benveniste teaches that flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed (col. 5, lines 62-67). Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof (col. 17, lines 55-67).

It would have been obvious to a person of a ordinary skill in the art at the time the invention was made to apply Benveniste's teaching of flag bit indicates uncompressed segments and Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof to Kataokas 's system in order to check status of portions of data file during expanding or compressing data file.

7. Claims 5, 11, 17, 23, 29, 36, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataokas in view of Ikegami (USP 6112208).

As to claims 5, 11, 17 and 23, Kataokas discloses the claimed limitation subject matter in claim 1, 13, 19, except the claimed limitation "wherein said compressing adds end.....a flag indicating that the end information is deleted....other than last section".

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Ikegami teaches that in the Huffman coding method, all pieces of input data are read. A data file is composed of binary data of 0s and 1s can be represented as symbol string in such as manner that each byte of the data file is correlated with one character symbol. The occurrence probability of each symbol in the input data is obtained. Next, an occurrence probability table that represents the occurrence probability of each symbol is generated. Next, a code is added to each symbol so as to identify the symbol in a predetermined method. When the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 1, lines 45-60; col. 17, lines 55-67; col. 18, lines 5-15).

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It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of the Huffman coding method, all pieces of input data are read. A data file is composed of binary data of 0s and 1s can be represented as symbol string in such as manner that each byte of the data file is correlated with one character symbol. The occurrence probability of each symbol in the input data is obtained. Next, an occurrence probability table that represents the occurrence probability of each symbol is generated. Next, a code is added to each symbol so as to identify the symbol in a predetermined method. When the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from

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the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Kataokas's system in order to check status of portions of data file during expanding a file.

As to claim 29, 36, Kataokas discloses the claimed limitation subject matter in claim 1, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not .... said reading step reads the section data by judging a last section based on the delete flag". Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Kataokas's system in order to compress data following correct portions.

As to claim 43, Malik discloses the claimed limitation subject matter in claim 1, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not .... said reading step reads the section data by judging a last section based on the delete flag". Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Kataokas's system in order to check status of portions of data file during expanding.

As to claim 44, Kataokas disclose the claimed limitation subject matter in claim 40, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not .... said reading step reads the section data by judging a last section based on the delete flag". Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step

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S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Kataokas's system in order to compressing data file faster.

### ***Conclusion***

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure  
Isozaki (US 5198813).

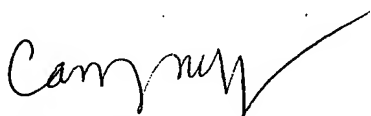
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***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Patent Examiner  
Art Unit 2162  
6/9/2005